MEMOIR

OF

SAMUEL GEORGE MORTON, M. D.

FAITHFUL memoirs of the wise and the good are useful, both as argument and exhortation, in behalf of moral and intellectual culture: they serve as precept and example, to encourage other men to cultivate those qualities and emulate those labors that have led the models through virtue and wisdom to honor and happiness. Such memorials are worthy to be preserved, as constituting matters of public concern; for such individuals belong to their country, and indeed, illustrate the age in which they may have lived.

The different epochs of the world are more distinguished by the virtue and wisdom, the intellectual strength and beneficence of a few elevated men who have illustrated them by their actions, than by the natural events or the civil and moral revolutions that have occurred in them.

We know less, perhaps, of Egypt, than of Menes, Sesostris, or the Lagidæ; of Persia than of Cyrus, or Darius Hystaspes, the Achemenian; of Greece than of Pericles, Alexander, or the Stagyrite. Rome is greater through the names of Virgil and Tully, than by Ticinum or Thrasymene, or temple or tower; and while Sweden boasts more her scholar of Upsala than her hero-king, England and France derive a purer renown from their Newton and Cuvier, than from the fields of Cressy, or Agincourt, or the slaughters of Lodi and Arcole. It is quite true to say that the history of a nation is rather the story of its noble men than of the masses of its population.

If these observations be just, then the occasion which has assembled us here this evening is interesting and important, provided the person whose life and actions we are about to commemorate should be found to possess such great and shining qualities as to justly entitle him to take rank among the eminent men of America.

All persons who have enjoyed the advantages of education and good moral training ought to feel an interest in the honor to be paid to learning; which, the more it is respected and reverently acknowledged, the more must it grow in the favor and good esteem of society in general. Such persons usually coincide in the belief that high moral and intellectual acquirements are possible, even for masses of the people; and that the greater the spread, and the higher the scope of these, by so much more is society rendered safe, and happy. To all such persons it seems an act of justice, as well as a useful one, to set forth in a clear light and palpable form these characteristics, whether of the heart or the understanding, that have enabled a wise and virtuous citizen to rise through many difficulties and obstructions to an exalted station among the learned, and gain an honorable fame throughout the world.

It would be a curious and instructive lesson to learn all the circumstances, to know all the motives, and comprehend all the intellectual exercises that were influential in developing a character like that of Cuvier, and establishing forever his title to immortal renown. If we could be let into the secret thoughts and unrevealed intents of the heart, and truly sympathize with all the deep aspirations after virtue, and wisdom, and fame, and usefulness that alone could be capable of producing such a finished scholar, philosopher, and man, we might, haply, see as with his eyes the beauty of learning, love as with his heart the paths of truth and virtue, and labor with courage and strength like his, to attain to equal eminence. It is hardly too bold an assertion to say that what one man can do is within the scope of other men's faculties if they would but use them aright.

I have said that commendation bestowed upon good men is a reward offered to such as will strive to imitate them, and I think the observation is a sound one, inasmuch as love of praise is a common attribute of men. It is true, however, that none but the wise and good can justly appreciate the value of encomium; for they are neither good nor wise who seek for it where it is

false and unmerited: whereas, when it is not in conflict with our conscious sense, to be approved of men for good actions and laudable purposes affords us the best consolation amidst the trials of the world, and, indeed, crowns us with a true complacency, and gives us the greatest happiness.

This honorable love of approbation is the secret source whence the courageous spirit draws strength, that leads a man to the heights of fame: it ever tempts him forward by the hope held before him of immortality. It shows that the good and the great shall never die utterly, as to their moral and intellectual identity, even as to this present world; and that they are already, as it were, sealed with the signet of immortality.

In the examples of such men as Plato, Newton, Linnæus, Milton, or Washington, it points to persons who are even now living, though they be dead—and having names, individuality, power, reputation that are destined to remain ever present in human societies, among all people, in all times, while the records of man shall linger upon the earth. There *is*, therefore, so to speak, a real immortality to be gained even in this world; an indestructible personality and lasting identity, that bid defiance to both Death and Time, and that can lift the soul above the power of fate or fortune. This is the highest meed a man can claim or wish for: it is the thing hoped for, and longed for, and striven for. It ought in pure justice to be awarded to them who can really claim it. These thoughts that rise up within my breast as I reflect that I am to speak of Dr. Morton, lately President of this Academy, serve also to remind me that, in speaking of him, I ought so to shape my discourse as in nowise to offend his spirit, were it here present to hear what I have to say concerning him. I ought, therefore, to say nothing incommensurate with his real worth and services, nor offend him dead whom I greatly esteemed living, by any adulation which he would have rejected, or inordinate attribution of merit which he would by no means have claimed.

The paths that lead to greatness and fame are many and various; but among the numerous achievements of men, none can vie in solid usefulness with those that tend to the improvement of knowledge and the wide diffusion of it among mankind; since in knowledge are laid the firm foundations of our happiness, whether it be individual or social.

Education and sensualism are as poles to each other. Educa-

tion can exalt a man to the height of the Eon or Demiurgus in excellency, while sensualism leaves him at his original level with the mammal from which he sprung. Mere sensualism cannot give lasting or perfect happiness, since such power is too transitory, and since an immortal spirit spurns it away as both unworthy and incomplete. The powers of the soul are too vast and too diversified to find competent occupation or satiety, save in the continued effort to expand more and more the dark zone that bounds like a mysterious curtain, the plane of light in the midst of which man dwells, and where, as a centre of radiation, he ever desires and strives to dart his beaming intelligence farther and farther, and light up new worlds to be comprehended, new mysteries to be solved, new relations to be established, and so prove his alliance and his harmony with the whole universe.

"Man *exists*," says Dr. Fichte, "in order that he may ever become morally better himself, and make all around him physically, and if he be considered as a member of society, morally better also, and thus augment his own happiness without limit."

But the cultivated man—the scholar—has a title to be considered as man's teacher and guide. The same enthusiastic philosopher, whom I just now quoted, observes that "the knowledge he (the scholar) has obtained in society, he must steadily apply to the uses of society. He must arouse men to a feeling of their true wants, and show them the way to satisfy them. Thus, he is their teacher." But Dr. Fichte regards the scholar as man's guide also, inasmuch as he not only makes them know generally, their wants; "but in particular, and in all places, shows them the wants arising out of their special condition, and leads them to the appropriate means of reaching the peculiar objects they are called upon to attain."—*Voc. of Schr.*

Every man who becomes truly a scholar is, in fact, thereby constituted a teacher and guide for mankind.

The Academy of Natural Sciences, whose members are here met to commemorate the loss of their late president, is in reality, a college of scholars, whose object and duty it is, by means of their institution, to augment the resources of society, and point out the method of applying those special resources to the object of attaining happiness. This they strive to do by the investigation and explanation of many great laws of nature, which it is good for man to know; and by the classification and exhibition

of those infinitely varied forms, qualities, and relations of living things, the exploration of which is the prime object of every naturalist.

It would be degrading to attribute the long labors and arduous studies, in which Dr. Morton was so earnestly engaged with you, to a desire to gratify a mere prurient and aimless curiosity. Your great collection, classified and arranged, and your costly library, enable you to discover and teach the equable and harmonious operation of an important portion of the laws of the universe, the contemplation of which may well lead a man to the perception, and conviction indeed, of his relation to the Divine Author of all things. Those pursuits tend to elevate the spirit of man, as well as purify and enlarge it. They chasten and mollify the passions, abate the pride, and rebuke the arroganee of the inquirer; while they reveal to him the inorganic and the organic, they also teach him that best of knowledge, which is to know himself, his dependency, his inextricable connection with his brother man, and his whole mission, as the superior and lord of the creation both moral and physical, to adorn and improve the scene of that mission, so that he may at last convert even the desert-wastes of the heart and the earth into smiling gardens, and thus present a sacrifice of sweet savor in the work both of his heart and his hands, to the Divine author of his life, the giver of his understanding.

He loves nature. What is nature, gentlemen? It is God's will spoken: God's command made fast; for he spoke, and *it* was done; he commanded, and *it* stood fast; as it was, is, and ever shall be. St. Paul beautifully expresses this truth in the words, "For the *invisible* things of *Him*, from the *creation* of the world are clearly *seen*, being understood by the *things* that are made; even his Eternal power and Godhead."

And now, gentlemen, may it not be believed that this Academy, of which Dr. Morton was an ever zealous member, ought to prove a fruitful source of happiness to its members, as well as great advantage to all persons that are of a spirit to comprehend its mission? It has shed lustre upon our country among foreign nations, and served to add security to our

Placidam sub libertate quietem,

by showing to mankind, that we can be governed by our free voices, and yet successfully contend for the palm of literary and

philosophic victory, though no royal treasures sustain our efforts, and no taxes on the people reward us with pensions and decorations.

Among all the members of this Academy, there is no one who labored more sincerely and assiduously according to his strength, than your late president. He gave, indeed, a great part of his time, and much of his wishes and hopes, to its augmentation, and firmer establishment: to the spread of its fame, he largely contributed, and therefore it is that you hold his memory in honorable remembrance.

The scientific world know that you highly appreciated the labors and services of Dr. Morton, for they have seen him crowned by your unanimous voices with the signal honor of presiding over your labors.

It is also known, that you have directed an admirable portrait of him to be placed in your museum, the scene of many of his toils, and that a marble tablet shall be inserted in its walls, and inscribed with his name.

The Academy has also directed that a memoir of their President shall be drawn up, to be delivered before them—your partiality has devolved this duty upon me; and I wish the choice had fallen on some member more capable than I am of fulfilling the sacred trust. Peradventure, I might prove equal to the task of setting forth Dr. Morton's claims as an eminent member of the profession to which both he and I belong: but he has gone far beyond his fellows in that calling, and earned for himself a name which reflects credit upon all of us who are his brethren; upon the Academy; upon our city; and upon his country.

Being only a physician, and not a naturalist, I can hardly follow Dr. Morton in the paths he pursued, so far above my own. How shall I show him, overwhelmed with a large practice, yet striving as an ardent physio-philosopher, to solve the mysterious problems of the laws of nature—developing truth and unity from the apparent confusion and contradictions of zoology—restoring the remains of our American palæontology, and with never faltering effort, or purpose, pursuing those curious researches of his into the laws and results of ethnological form and generic derivation; and in fine, taking rank along with the archaiological and historical celebrities of the age.

I feel sure, at least, that it is not necessary for me in this place

to say that he was an able and esteemed member of the medical faculty, and universally regarded as a learned, skilful, and prudent physician and man—one occupying a principal place in a city, which, with whatever pretensions, has long claimed to be the chief seat of medical learning on this Western Continent.

You are witnesses of the profound sensation occasioned by the announcement of his death, and many of you, being members of his profession, can testify that, among the great body of medical practitioners in Philadelphia, there was a deep gloom, showing that the value of his life was highly appreciated by them, and that they felt they had, as a body, suffered great loss by his removal.

It may safely be assumed that in a population here numbering not far short of half a million of souls, there are few individuals whose removal by death would have caused a more lively or more general regret, and if this assumption be not unfounded, it presents an acceptable evidence of the public appreciation of his merits.

You who know what a persevering and methodical industry, what a dispassionate judgment, and what ardent love of knowledge characterized Dr. Morton, will join with me in the expression of a mingled feeling of regret and disappointment, because, seeing that as one of your Fellows, he had attained to so considerable a fame at an age not far advanced, it was pleasing to anticipate its further extension, increasing along with it the honor and authority of the Academy, had length of days been vouchsafed to him. You know that the great and venerable age of the Prussian Philosopher has not been able to rob him of the power to illume the declining pathway of years with brilliant productions, that shed a rich though mellow light upon the name of that most admired and most beloved sage of the nineteenth century.

Happy are they to whom it is allowed to run their whole course of life; not being cut off in their prime, like the lamented subject of this memoir—to some notices of whose early training I must now beg to draw your attention.

Samuel George Morton was born at Philadelphia, on the 26th January, 1799. His father, Mr. George Morton, a native of Clonmel, in Ireland, was descended from a respectable stock in

that city, and was trained in early life amidst a family, in which the gifts of education were highly prized and abundantly enjoyed. For the purpose of augmenting his fortune, he early emigrated to America, and devoted himself to mercantile affairs in Philadelphia.

Here he was united in marriage with Jane, a daughter of John and Margaret Cummings of this city. The issue of this marriage was nine children; of whom six perished in their infancy, leaving him one daughter and two sons, James and an infant child, Samuel George Morton, of whose character we are to speak.

Mr. Morton, still engaged in commercial pursuits, which had not as yet yielded him the golden fruits of fortune, was suddenly cut off by illness on the 27th July, 1799, leaving the young child an orphan only six months old. The widow and her three children thus bereaved, and left with limited resources, withdrew from the city, retiring to a place a few miles from the city of New York, called West Farms, which was at the time a settlement under the chief direction of the people called Friends or Quakers.

Here Mrs. Morton experienced much friendly regard, and her children kind protection, from the benevolent people among whom she had chosen her lot. Although not originally a member of the Society of Friends, she had relations or connections among them, and was, after a time, led to enter the society as a member, and to wish that her children also should be received, which was done; so that young Samuel being formally taken within their protecting fold, his earliest years were passed in the training and discipline of Friends.

As soon as the orphan was suited by age, he entered the school at West Farms, and was there taught the rudiments of letters. A memorandum in his Diary shows that the first twelve years of his life were passed under this discipline; one in which he learned those lessons of moderation and self-control that are best received in the tender plastic age, before the loud voices of the passions have risen above the whispers of reason.

The progress that he made in learning, if we may take his own statement, was not so great as could be desired. Nevertheless, he had already acquired a passionate fondness for books of history, which he devoured; and he discovered an early

taste for poetical composition, and was greatly addicted to the writing of verses. It is reasonable, therefore, to suppose that while his advances in school learning may have been slow, his spirit was already up and striving to escape from the barriers with which immature age and other circumstances had hemmed it in.

Morton's love for historical studies, thus early awakened, never ceased in all his after life; and it formed, perhaps, a principal element in his subsequent destiny. His love of poetry, too, and versification, accompanied him to the latest period of life; and though unknown as one of the Poets of America, he improved his natural talent in that way to the production of pieces, showing him to possess a lively perception of the beautiful and sublime in nature, and a quick sympathy with every gentle and noble sentiment.

In the year 1808, the elder brother, James Morton, was invited to visit his uncle, Mr. James Morton, who lived in affluent circumstances at Clonmel. This kind intention to protect and aid his deceased brother's son was defeated by the death of the lad, which occurred at Clonmel, about 1811. The younger and now only remaining son was yet diligently occupied at the Friends' School, and though we have reason to believe he displayed no little readiness in learning, he complains that what he "learned in seven years might, with a proper tuition, have been mastered in two." So that he was never content with the earliest of his lessons. After this he passed some time at Friends' School at West Town, Chester County.

In the autumn of 1813 he was in his fifteenth year, and for the purpose of higher teaching was transferred to the school then held at Burlington, New Jersey, under the auspices of John Gummere, of the Society of Friends, a gentleman of enviable reputation as an instructor of youth, and as a highly cultivated and conscientious man. Here he spent six months under Mr. Gummere's tuition, devoting himself principally to the study of the mathematical sciences. In after years he was wont to reflect with much satisfaction upon this portion of his life, as one very profitable for his instruction and improvement, and he expressed the opinion that it was the only school in which he "derived knowledge commensurate with the time and labor consumed in study," yet even here he had occasion to lament that he

did not learn as much as was to be expected; because he was wanting in first principles of education. This was a reflection that appears to have distressed him; yet to it is perhaps due the great pains he subsequently took to make amends for early deficiencies.

Although placed under Mr. Gummere's care, and loving his work, Morton did not even there acquire any strong bias or affection for mathematics. He still preferred history, in the reading of which he took extravagant delight. Mr. Gummere's school was the last one that he attended.

Thus we see that young Morton, early cast upon the world without good educational training, was enabled, through his own resolute will, and an innate affection for learning, so far to master every difficulty as to rise above the hopes entertained of him, and succeed in his scheme of life better than thousands of his cotemporaries, to whom every possible advantage was extended.

Leaving the Burlington School, young Morton now came to Philadelphia in the summer of 1814, to be entered as apprentice in a merchant's counting-house, with a view to be fitted for the management of general business.

From his first entrance upon the duties of the mercantile house, he was impressed with a seated conviction that such was not his vocation, and it was ever an irksome task to fulfil the duties of his station there. Yet while strictly observant of his place, he found occasions in the pauses of his work to gratify his love of books.

In the year 1817, he lost his mother, which was a grievous loss to him. He fervently loved her on account of the tender regard she merited by her gentle and affectionate deportment to the children.

In the autumn of the same year, he got possession of a copy of Dr. Rush's sixteen Introductory Lectures, which he read with such delight, that he definitively resolved, after their perusal, to adopt the profession of their celebrated author, and he never afterwards had real occasion to repent the determination to take so important a step.

At that time the late Dr. Joseph Parrish, who was at the height of his reputation as a physician and teacher, was accustomed to receive into his office many young gentlemen, students of medi-

cine, who were there instructed by him. Dr. Parrish had also several assistants—young physicians, who joined in the instructions given in the school, by way of familiar lectures and demonstrations. This was the medical school into which Morton entered as a student, in 1817; and it was fortunate for him to be placed under such excellent tuition—one that has sent forth many physicians who have acquired celebrity both in medicine and the collateral sciences.

While under Dr. Parrish's private tuition, Morton attended the courses of medical lectures at the University of Pennsylvania, where he learned Anatomy and Physiology, Therapeutics and Materia Medica, as well as the principles and practice of Physic and Surgery.

These educational pursuits served in a good measure to supply the deficiencies of his earlier training. Nor can it be denied that these departments of medical learning do coincide with very expanded and liberal views of nature; and that the study of them leads to an acquaintance with the laws and phenomena of both the inorganic and the organic.

It may, I hope, be allowed to me to remark here, that these studies, if rightly pursued, might well serve to retrieve one's losses of time and errors of aim, through imperfect tuition in schools and colleges; and that it is not surprising that a youth, faithful to himself as Morton was, should have issued from such a medical school, far more advanced in useful knowledge than he would have been by the devotion of an equal amount of labor and time in the ordinary academies or colleges of the United States.

Seeing how strong was his natural desire for mental improvement, one might well envy the happiness experienced by such an individual while imbibing the great and diversified streams of information so refreshing and strengthening to the spirit of an eager and thirsty aspirant. Such happiness is greatly to be desired as gratifying a commendable spirit and as laying up at the same time, treasures of knowledge, the dispensation and administration of which, for the benefit of others, afford a clear expectation of often renewed and calm delight during the lapse of a long and busy life.

I believe that in his studentship, Morton attended three courses of lectures at the University, and having at length complied with the rules of the Institution in all respects, he was admitted to the

degree of Doctor in Medicine at the Commencement, held in 1820. He was, in the same year, April 16th, 1820, elected a member of the Academy of Natural Sciences.

Though crowned with the honors of the University, he was not, as many young men are, puffed up with exaggerated notions of his abilities and accomplishments, for he was an unassuming, modest young man, who yearned for further and fuller knowledge not of his profession only, but of things and men—particularly of eminent physicians. He was also moved by a laudable desire to see and know those of his kinsfolk who still resided at Clonmel, the seat of his family and his ancestors, who equally desired to be acquainted with their young American relative, the only remaining son of a deceased beloved brother.

Accordingly, on the 10th of May, 1820, he embarked at New York, for the port of Liverpool, to visit them, agreeably to the warmest invitations from his uncle, Mr. James Morton of Clonmel, the same gentleman to whom, as his "Venerable Uncle," he afterwards gratefully dedicated the most considerable of all his works, the Crania Americana.

After a prosperous voyage he had the happiness to find himself surrounded by a numerous society of relatives and connections living in the most agreeable style, and possessed of manners, which he contrasted with his own, and which could not but have a salutary influence upon them, and doubtless tended to impart to them something peculiarly dignified, tempered by an extreme affability and urbanity, which ever afterwards distinguished him as a gentleman.

Morton did not, amidst the gay convivialities of his house, abandon himself to the pursuits of pleasure, but wisely devoted a portion of his time to studies that were occasionally broken in upon by journeys and by invitations to their hunts, their coursing the hare, their salmon-fishings, and their parties. He kept a regular diary of his proceedings, which shows that he was an attentive observer, not only of events and of nature, but of his own shortcomings and his deficiencies in manners, in address, and his views of the world as it is. His diary shows him to have had, even at that time, a spirit earnestly engaged with itself in improving and strengthening its faculties, and rightly directing its aspirations.

Mr. James Morton, who soon became warmly attached to his

nephew, was not satisfied that he should be content with the doctorate conferred by an American University, and insisted that he should possess himself of one which he regarded as more authoritative and distinguishing, namely, the Diploma of Edinburgh, at that day still boasting of some of its old celebrated names. Accordingly, it was determined that he should attend the curriculum at that school, with a view to obtain its honors.

Dr. Morton had reached Clonmel on the 14th of June, 1820. It was on the 20th of October that he arrived in the capital of Scotland to enter as a matriculate in the University.

Here he diligently attended the lectures of Professor Munro the younger, of Prof. Hope, Prof. Home, both the Hamiltons, and with great delight the Geological lectures of Prof. Jameson. The last-named gentleman inspired him with a warmer zeal for natural science, though it is probable that his connection with Dr. Harlan, who had been one of Dr. Parrish's assistant instructors, had inducted him already into some positive acquaintance with and fondness for such studies.

Dr. Morton also attended the course of lectures delivered by the celebrated Prof. Gregory at the Edinburgh University, up to the period when those elegant discourses were terminated by the attack which resulted in the Professor's death on the 3d of April, 1821.

After a violent, dangerous, and protracted illness, which he suffered in the early part of 1821, and which brought some of his friends even from Clonmel to assist and console him, Morton made a tour in the Scottish highlands. The journal of this tour shows that, while he had a poetical sense of the beautiful and the sublime in Nature, he also cherished a habit of philosophical observation, and that he returned strengthened in body, and enlarged in his views by the visit to that interesting region. After a short delay at the capital he returned to Ireland to unite himself again with his family at Clonmel.

As Paris was then looked upon as a chief radiating point of medical science, it was determined that he should pursue his further medical studies there. Accordingly, he bade adieu to Clonmel again on the 4th day of October, and passing a few days in London and at other interesting points in England, he arrived at Paris on the 26th of the month.

Here he devoted himself very assiduously to his tasks as stud-

ent, indulging very sparingly in the amusements and distractions of that seductive city. He was always on his guard against its temptations; and very frequently had before him the image of his deceased mother, as if warning and guarding him in the slippery paths of his youth; and he said that her spirit seemed to be always with him and about him; and that it was a sore trial of his young life, that by no longer adhering to the Society of Friends, he might grieve that gentle and loving spirit. He had tenderly loved his mother during her lifetime, and cherished her memory while he himself lived.

He told me that, when the carriage rolled out of the gates of Paris on his way to Italy, he looked back towards the metropolis, and upon the smoke and dust above it, and, raising his eyes and hands toward Heaven, ejaculated his thankfulness to be delivered from the moral contagion in which he had lived there, and thought of the Cities of the plain.

No memoranda of his proceedings were made during his residence in Paris, but in his resumed journal he remarks that the past winter was the happiest of the three-and-twenty that had passed over his head, and that he had endeavored so to combine study with amusement as not to become weary of either.

He proceeded to Geneva and made an excursion along the wild romantic Glen of the Arve to the Vale of Chamounix.

Morton was a Poet, and we might well sympathize with those intense emotions which such a person would experience when, for the first time, the whole western flank of Mont Blanc burst upon his view, as he turned the base of the hill, where is opened up that astonishing and wonderful scene—a scene which impelled Coleridge to address his celebrated lines to the glaciers, and woods, and waters of Mont Blanc:—

"Ye ice-falls!"
"Who made you glorious as the gates of Heaven,
Beneath the keen full moon? Who bade the Sun
Clothe you with rainbows? Who, with living flowers
Of loveliest blue, spread garlands at your feet?
God! let the torrents, like a shout of nations, answer,
And let the ice-plains echo—God!
God! sing ye meadow-streams with gladsome voice;
Ye Pine groves, with your soft and soul-like sounds!
And they too have a voice, yon piles of snow;
And in their perilous fall shall thunder—God!"

I love to imagine the charm that wrapt his spirit when from the hither shore of the Mer de Glace, looking across that ocean of ice, he cast his eyes from base to summit, 8000 feet along the ascending obelisk of the Aiguille du Dru, or scanned the long, melancholy desolation of the Moraines, that bound the Mer de Glace, on either hand. But I must no longer indulge in these retrospections.

Our traveller, pursuing his journey, visited Milan and Pavia, and thence proceeded to Turin. In fine, he spent the summer in visiting various places upon the continent.

The following winter was passed at Edinburgh again in sedulous attendance upon the lectures, and in active business at the Infirmary; so that, he certainly enjoyed remarkable opportunities to become acquainted with matters of his profession and make amends for the deficiencies of his early instruction.

At the commencement at Edinburgh held in August 1823, he presented an elegant Latin Thesis, *de Corporis Dolore*, and having fulfilled the requirements of the Institution in his examination, was passed Doctor of Medicine of that school.

Certainly Dr. Morton must have now acquired solid claims to the character of Physician, in which vocation he was about to present himself in his native city; for he had commenced his studies in 1817, under a meritorious and able private teacher, and so had six long years of earnest studies and constant progress.

Dr. Morton ever looked with distrust upon his early education, which he regarded as incomplete, and therefore unsatisfactory; and hence he was always alive to the need of repairing the faults of it, if he would aspire to a dignified station in the great scholarship into which he was entered by the closing of his student-life. He applied himself therefore to obtain many accomplishments, so necessary for his purposes, in languages, in belles lettres, and what may be called matters of taste. He, however, still loved his history and poetry. His diary contains many selections and translations, both in prose and verse, from various Italian authors, whose language he read with facility.

He had acquired a good acquaintance with the Latin and French tongues, and some knowledge of the Greek. He never had leisure or pause from work to allow of his becoming master of the German language, which was always a subject of regret to him.

I cite these memorials of our departed friend and colleague the more willingly, inasmuch as they evince Dr. Morton's earnest appreciation of the advantages likely to enure to every scholar who will secure such facilities, while they also prove his good sense and prudence in early life; for he devoted himself to study while others, loitering by the way, were happy to have escaped the thraldom of a pupilage or the trammels of a studentship, and so fell into habits of ease and self-indulgence. The example is well fitted to be handed down for the imitation and encouragement of any youth, who would become a wise and accomplished gentleman and scholar.

It was in June, 1826, that Dr. Morton presented himself to the citizens of Philadelphia, as one of the physicians of the place. But the first appeals of the young physician fall upon ears that are deaf; and he determined that, while slow progress must be submitted to, time should not be lost. He renewed his connection with the Academy, which at that time embraced many names that need only to be pronounced, to show how ardent was the love of natural science here. Maclure, Ord, Lea, Say, Collins, Lesueur, Nuttall, the beloved and lamented Griffith, Harlan, Pickering, Conrad, and others, were inspired with a zeal that knew neither tiring nor satiety. The meetings of the Academy, which had before been held at the old hall in Arch Street, were, in 1826, transferred to the new museum in Twelfth Street, where Morton labored, with the others, in classifying and arranging the cabinet. Here he delivered an address, which contained an interesting history of the Academy from its foundation, and which has passed to a third edition.

His first scientific, published essay, was an article *on Cornine, a new alkaloid*, printed in the *Med. and Phys. Jour.* for 1825–6, p. 195.

May 1st, 1827, the young naturalist presented his first scientific communication to the Academy, which was entitled, *Analysis of Tabular Spar, from Bucks county, Penn., with a notice of various minerals found in the same locality.*

This paper, which was creditable to him, was followed by a long catalogue of articles, some of them very important, but too numerous and various to be cited here. They will be enumerated at the end of this memoir.

The discovery of numerous marl-beds containing organic re-

mains, in the State of New Jersey, and the extensive excavations of the Chesapeake and Delaware Canal, at that period in process of construction, furnished provocatives and aliment to his appetite for research; and his diligence enabled him to make numerous valuable contributions to the Academy's Journal, upon the subject of organic remains, and geological formations. More than fifty of them are noticed in its volumes. He also made contributions to the Am. Philos. Society, some of which are published in its *Transactions;* particularly his learned, ingenious, and admired essay, entitled *Crania Ægyptiaca*, which shows his ripe scholarship, and the fervency of his thought. This essay greatly enlarged his reputation abroad, and won the esteem of distinguished scholars.

To Professor Silliman's *American Journal of Science and Art* he made valuable communications, and it is only necessary to turn over the volumes of his great correspondence, to perceive how largely the opinion of him was enhanced, especially by his celebrated essay on the *Cretaceous Group of the United States*, which contained a synopsis of the organic remains to be found in it; a work of much labor and research. His correspondence shows that this paper gained for him high credit, and drew forth happy compliments upon his ability, candor, and discrimination. Dr. Buckland, Dr. Mantel, and many others, were much gratified on account of the success of his effort.

I shall beg your permission to remark that we have here a conclusive proof as to one point of Dr. Morton's character; I refer to what may be called his good sense; for it is in this country, and probably elsewhere, an evidence of good sense, when a medical man devotes himself with success, to the pursuit of Natural History, or any cognate study, without complete ruin to his prospects as a practitioner.

I may well remember the example of Harlan's earliest devotion to those philosophical pursuits, in which he acquired a well-merited fame, and the repeated warnings I gave him of the ruin that would fall upon him as a physician and in his estate, if he should venture to defy the popular voice, which calls upon medical men to come out from and be separate from other men as a peculiar sect, devoted to one object alone.

An eminent foreign correspondent of Dr. Morton, who has earned one of the high names in geology, complains, in a letter,

of the hard fate of a physician, who, though by temper and preparation of the mind, fitted for the ministry of medicine, is nevertheless proscribed, even by educated society, if he employs leisure hours in researches upon Comparative Anatomy, Zoology, and Palæontology, subjects that are cognate to the contemplations and science of the physician—while that same public look with complacent approbation upon the medical gentleman who enters freely into the frivolities of fashionable life. These remarks show that Dr. Morton was a wise and prudent man, to be enabled to retain his medical reputation; for it is known to you all how general and high was the appreciation of him as a physician, and that he enjoyed the confidence of a number of the most elevated persons of our community, and that his medical practice was increasing up to the time of his death.

He had the good sense and prudence to maintain his active and visible connection with his profession, while striving in the race for fame as a philosopher.

He had early begun to make his now celebrated collection of crania, with great labor and toil, and inconvenient cost. He investigated organic remains; he explained problems in zoology and ethnology; he diligently attended the sick; he published valuable treatises on consumption, on the science of anatomy, and on the practice of physic. He served the city gratuitously, as physician to the Almshouse Hospital, and delivered courses of lectures at the Pennsylvania Medical College, where he was Professor of Anatomy. All these things were done by a man whose family was large, and chargeable upon his funds, derivable in chief from his exertions as a physician. Is it too much to say that a man who could do this, and acquire, in the mean time, the reputation of being one of the most considerable physio-philosophers of the Western Continent, was both a wise and a learned man? Yet nothing could make him either vain or arrogant.

Upon a late occasion, a gentleman returned from foreign travel, reported a compliment paid to him abroad in one of the very highest quarters in the whole republic of letters. Dr. Morton replied: "I beg you never to repeat that. I assure you it will be disagreeable to me ever to hear of it again." Yet certainly, if a man might accept a compliment, he could not desire a better or more disinterested one than that was which pronounced him to be the American Humboldt.

In 1834 Dr. Morton made a voyage to the West Indies, which gave him opportunity to investigate points in relation to their geological structure.

On the 18th September, 1839, he was elected Professor of Anatomy in Penn. Med. College, which office he vacated Nov. 6th, 1843.

I have mentioned his collection of crania. His earliest publication on ethnology was the splendid volume illustrated with beautiful lithographs, entitled *Crania Americana*, fol., Philadelphia, 1839. Here I shall feel myself authorized to detain you a few moments in relation to some points connected with that elaborate work, which will continue a lasting monument of his learning, energy, and ability.

It is a very remarkable circumstance that men of science, and particularly the cultivators of the natural sciences, had, to a certain extent, forgotten to attend to the records of man as creature merely, and member of the zoological series, whose form and other physical attributes it would be interesting to know, as they have existed during the long persistence of that imperishable unit, the Genus Man.

Elucidations of man's ethnological characteristics could be best drawn, not from the historian, the geographer, or philologer, but from the observation of his real physical attributes in various zones, climates, continents, and epochs. Such investigations might well serve to throw a brilliant light upon many dark questions both in history and chronology, as well as in morals and faith.

No unquestionable palæontological remains of the race have ever been discovered, and Scheuchzer's *Homo Diluvii testis*, M. De St. Merry's Martinique Galibìs, and the remains from Santas, in Brazil, were alike rejected as no antediluvian records.

That illustrious physiologist, Prof. Blumenbach, was the first to point out this *lapsus* of regard on the part of the learned, and to take measures to repair the wants of science in relation thereto. He accordingly commenced his collection of human crania, and in the year 1790 published the first of his *Decades Craniorum*, which work was continued at intervals until the last of the Decades appeared, in 1828, having been in course of publication for a period of thirty-nine years.

These Decades contain the highly expressive outlines of sixty-

five crania with faint linear shadings, representing the peculiar form and appearance of various races and families of mankind. They are highly expressive delineations; because they convey most explicit notions of the cranioscopical peculiarities of different races of men.

Blumenbach was surprised to find that, in the course of more than three centuries since the revival of letters, during which the industry and zeal of the learned had been exercised in making natural history collections, *ad luxuriosum fere usque excessum*, it was, as yet, almost impossible to meet, in the richest museums, with any specimens illustrative of the natural history of man; and further, he was astonished to learn that the subject had been neglected by the most classical and voluminous writers of past times, and that even Conrad Gesner and John Ray had passed it by in silence.—*Dec. Cran.* I. 4.

Animated, therefore, with the idea of that important aid which might be given to the progress of knowledge by filling up this lacuna, he made his celebrated collection, and issued the publications before mentioned which were founded upon it. Much of his fame as a philosopher is derived from these labors. But, if the celebrated German has received meet praises for this work, shall we not also claim for an American physician and naturalist a share of applause for labors more assiduous, and results far more considerable and valuable ?

The augmentation of his museum of crania of men and animals, made Dr. Morton, doubtless, to a great extent, aware of those cranial homologies so curiously set forth by the illustrious Oken, and which, if they may clearly be assumed as of the lower animals in various genera, must become in man merely differential ones ; yet still, as Blumenbach and others, but most of all Dr. Morton have shown, easily appreciable. As ethnological attributes or marks, he certainly learned to discriminate and use them with great facility and exactness.

His valuable museum grew steadily up to the close of his life by frequent additions gathered from the whole world; and even since his death valuable specimens designed for it have arrived from foreign parts.

I desire not, gentlemen, to give undue praise to the subject of this memoir, and it is not from any such promptings that I beg to refer you to the eulogy pronounced by Dr. Pariset upon

Cuvier, at the *Acad. Royale des Scienees* of Paris, July 9, 1833. Dr. Pariset wished to show how energetic was the spirit of Cuvier, in regard to the *Mus. d'Hist. Nat.*, at the *Jard. de Plantes;* and speaking of his appointment there, he says, "Il entre au muséum, et n'y rencontre que quelques squélettes incomplets ou vermoulous, qu'il faut tirer de la poussière. En quelques années plus de quatre cents squélettes de mammifères; plus de douze cents préparations osseuses; plus de seize cents organes d'animaux à sang-rouge et à sang-blanc conservés dans de l'esprit de vin, sortent des mains de Cuvier."

"C'est ainsi que, secondé de Rousseau et de Laurillard, ses fidèles ses zélés coopérateurs, il forme par dégrés chaque année, ou plutot par des rapides progrès, cette magnifique galerie d'Anatomie Comparée, la plus riche de l'Univers, où l'on compte aujourd'hui plus de deux mille cinq cents squélettes de mammifères, et d'oiseaux, de reptiles, de poissons; plus de quatre mille préparations osseuses; plus de six mille préparations d'organes; en tous plus de quinze mille pièces, dont plus de quatorze mille n'existaient pas avant lui."

Even the gentle and modest spirit of our deceased friend would take no alarm at this statement, which is not offered with a view of comparing him with the illustrious Frenchman, which is farthest from my thoughts. But I have cited the paragraphs merely to show how such great activity and zeal for science are, and ought to be estimated; yet I wished at the same time that some due estimate should be made of Dr. Morton's merits in a similar line of scientific effort. Dr. Morton began alone, and with nothing; without the patronage of government, or the assistance of imperial or royal treasuries, and with no Rousseau or Laurillard: yet, by means of his own pecuniary resources, never superabounding; overwhelmed with professional business; ofttimes in miserable health and in danger of death, he had, so far back as the year 1840, collected and arranged a cabinet of 867 human crania, from many widely separated regions of the earth, 253 crania of mammals; of birds 267, and of reptiles and fishes 81—making 1468 specimens, the number of which in the course of the last ten years has been very considerably increased.

I think that this is a just and yet modest exposition of his liberality, perseverance, and labor in behalf of science, leaving out of consideration the fatigue of so great a correspondence as was necessary

to effect his object, and the inconvenient expenses, without which it could not have been carried on.

Dr. Morton never would have encountered all these toils for the gratification of mere curiosity, nor for any other purpose save that earnest one of getting at results, useful and applicable truths, to be turned to account in investigating the natural, moral, or political history of man—objects in science surely not less interesting and exciting than the infusorials of Prof. Ehrenberg, or the metamorphoses of Sars or Stœnstrup.

To compose and publish a great work in America is a bold undertaking on the part of an author. But, notwithstanding the demands of a growing family, which he loved with a love akin to idolatry, and for whom he desired to secure the priceless benefits of education, which he always deemed better than gold or much fine gold, or any endowment with worldly estate, he undertook, in 1839, to publish his great work, *Crania Americana*, which should contain the fruits of his labors and researches; and he also resolved that it should at the same time serve to illustrate an important department of the Arts in Philadelphia.

All this he did when he gave us his sumptuous volume, the *Crania Americana*, which issued from the press in 1839.

Notwithstanding this work did not, in his native city, produce the impression, and meet the success which, from a liberal spirit among this community, might have been expected; the bare announcement of it brought numerous inquiries from abroad, showing the desire of many learned and eminent persons to know to what results it might lead. In an appendix I have placed a letter from Baron Humboldt, which gives it the highest commendation.

Upon its publication it was welcomed, in the *American Journal of Sciences and Art*, as "the most important, extensive, and valuable contribution to the Natural History of Man which has yet appeared on the American Continent.

"The subject," it was added, "is one of great interest, and Dr. Morton has treated it in a manner at once scientific and pleasing, while the beauty and accuracy of his lithographic plates are not surpassed by any of the modern illustrations of science." Such was the language of that most respectable Journal; and which allows me to say, *pulchrum est laudari à laudato virô.*

The *Medico-Chirurgical Review*, the *Western Journal*, the *British and Foreign Medical Review*, the *Journal of the Royal*

Geographical Society, the *Eclectic Journal*, and that time-honored, able, and impartial work, the *Edinburgh Medical and Surgical Journal*, all contain the most flattering encomiums upon Dr. Morton's labors.

I have no right to draw forth for the public from many private letters to him that I have had the pleasure to examine, the favorable sentiments and expressions of distinguished Naturalists and Archaiologists, addressed to our deceased President upon the appearance of the *Crania Americana*. Could I with propriety do so, I might show you how great was the consideration it acquired for him in the highest literary and scientific quarters.

The work is on your table, and you are acquainted with its purposes and its contents as to our American Ethnology and Archaiology.

You know that he considered "the Human species as consisting of twenty-two FAMILIES."

He did not assume that these FAMILIES are "identical with RACES, but merely groups of nations possessing, to a greater or less extent, similarity of physical and moral character and language."

He professes his belief in a primitive distribution of mankind into races, in the sense of their having been originally adapted to their local destination.

In classifying the races, he chose to adopt Blumenbach's methodical arrangement of those great divisions, *videlicet*, a Caucasian, a Mongolian, a Malay, an American, and an Ethiopian race.

Out of these divisions or races, he formed the seven families of the Caucasian race; as the Caucasian, Germanic, Celtic, Arabian, Lybian, Nilotic, and Indostanic families.

The Mongolians make five families; which are Mongol-Tartar, Turkish, Chinese, Indo-Chinese, and Polar families.

The Malays are two, the Malay family, and the Polynesian family.

The American race consists of the American family and the Toltecas.

The Ethiopian division comprises the Negro, Caffrarian, Hottentot, Oceanic-Negro, Australian, and Alforian families.

It would be no unpleasing task to exhibit here, in a concise manner, the exemplification, by many of his facts, of the justness

of his views on these several topics; particularly as his pages are replete with interesting details and descriptions that render the volume a charming as well as a most instructive one. The style is grave, yet full of fervency; and the whole work is as modest and devoid of arrogance as Dr. Morton himself.

Humboldt compliments him by saying that his work is destitute of those poetical reveries which may be regarded as the myths of modern Physiology.

It is far less loaded than the celebrated *Natural History of Man*, by Dr. Prichard; but in many respects it is equally deserving, and, indeed, we may well consider our country to have been honored by its publication.

I shall not add any further remarks upon it here beyond the expression of my hearty concurrence with the opinions of the *American Journal of Science and Art*, as to the beauty of the lithographic heads, of the fidelity and truthfulness of which it needs only to be said that he was scrupulously honest to that degree as to condemn and cancel several completed lithographs, most perfectly executed save in some minor, yet, to his acute sense of truth, inadmissible want of perfect accuracy.

Want of time compels me now to turn to another of his highly interesting labors. I allude to the Crania Ægyptiaca, which, as I said before, was a communication made to the *American Philosophical Society*, in December, 1842, and January and April, 1843, and published as an independent work, entitled "*Crania Ægyptiaea, or Observations on Egyptian Ethnography, derived from History and the Monuments:*" Philadelphia and London, 1844, 4to., with plates.

This volume contains fourteen plates, with views of 98 heads, besides numerous very excellent wood-cuts inserted in the running text; and it may safely be said of the treatise, that though strictly a scientific production it is one highly pleasing even to the general reader, by the interesting nature of its topics, and by the relation, as the story proceeds, and the *perfervidum ingenium* with which it is pervaded.

His inquiries enabled him to come to the following conclusions:—

"1. The valley of the Nile, both in Egypt and in Arabia, was originally peopled by a branch of the Caucasian race.

2. These primeval people, since called Egyptians, were the

Mizraimites of Scripture, the posterity of Ham, and directly associated with the Lybian family of nations.

3. In their physical character, the Egyptians were intermediate between the modern European and Semitic races.

4. The Austral-Egyptian or Meroite communities were an Indo-Arabian stock, engrafted on the primitive Lybian inhabitants.

5. Besides these exotic sources of population, the Egyptian race was at different periods modified by the influx of the Caucasian nations of Asia and Europe—Pelasgi or Hellenes, Scythians and Phœnicians.

6. Kings of Egypt appear to have been incidentally derived from each of the above nations.

7. The Copts, in part at least, are a mixture of the Caucasian and Negro, in extremely variable proportions.

8. Negroes were numerous in Egypt. Their social position, in ancient times, was the same that it is now; that of servants or slaves.

9. The natural characteristics of all these families of man were distinctly figured on the monuments, and all of them, excepting the Scythians and Phœnicians, have been identified in the catacombs.

10. The present Fellahs are the lineal and least mixed descendants of the ancient Egyptians; and the latter are collaterally represented by the Tuaricks, Kabyles, Siwahs, and other remains of the Lybian family of nations.

11. The modern Nubians, with few exceptions, are not the descendants of the Monumental Ethiopians; but a variously mixed race of Arabians and Negroes.

12. Whatever may have been the size of the cartilaginous portion of the ear, the osseous structure conforms, in every instance, to the usual relative position.

13. The teeth differ in nothing from those of other Caucasian nations.

14. The hair of the Egyptians resembles in texture that of the fairest Europeans of the present day.

15. The physical or organic characters which distinguish the several races of men are as old as the oldest records of our species."

Such are the inferences to which our president arrived after his long and arduous studies.

Dr. Morton, whose Museum I have so often alluded to, was naturally led by his ethnological studies to give a portion of his thoughts to what is called Egyptology, wherein he might haply derive materials for conclusion, very satisfactory to the mind, since the studies of the learned had lately acquired the highest importance as regards the fixing of many interesting Chronological points.

The strata of the earth having hitherto disclosed no debris of antediluvian or palæontological man, if he could go back to the tombs and catacombs of the cotemporaries of Abraham and the Patriarchs, he might well hope ethnologically to verify specimens of the most ancient date, in his museum. Hence the foundation of this work, the *Crania Ægyptiaca*.

Fortunately he instituted a correspondence with a gentleman long an inhabitant of Egypt, and, by his varied erudition, and the most versatile talents and untiring zeal for learning, the fittest person in the world to aid him and promote his ends. I speak of Mr. George R. Gliddon, whose enthusiasm for Morton appears to have known no bounds; so that he was indefatigable in the search for and in forwarding to Dr. Morton, specimens of crania taken from various localities in Egypt, and so verified as to their chronological epochs and places as to give them the highest value as cabinet specimens. It is only necessary to refer to Dr. Morton's published works to see how effectual was the assistance he derived from that zealous and warm-hearted friend. But I cannot detain you longer with a relation of all that Mr. Gliddon effected and proposed in behalf of the subject of this memoir, nor can I sufficiently express my admiration of the heartiness and the spirit-like enthusiasm with which he helped and loved Morton.

They were both greatly moved by the disclosures of the Egyptologists, nor is it surprising they should have been.

The discovery of the Rosetta stone, and, by means of that monument, a key to the hieroglyphic writing of the Egyptians, seems to be one of the most astonishing events of the century; nor can any effort of genius or patience exceed what Champollion the younger effected in the solution of those curious riddles, the cartouches or rings of the Egyptian monarchs, and in the de-

ciphering and explaining of Hieratic writings on monuments and papyri.

Dr. Thomas Young, Champollion, Salvolini, Rossellini, Wilkinson, the Chevalier Bunsen, Dr. Lepsius, S. de Sacy, Letronne, and others, forming a galaxy of brilliant minds, who seem to have revived in our days one of the celebrated pleiads of Alexandria under the Ptolemies, have, so to speak, effected the resurrection of the ancient people who filled the valley of the Nile with those wonderful monuments, that struck even the savage troops of Cambyses with awe, as at a later date they in like manner drew simultaneous cries of wonder from the Egyptian veterans led there by Napoleon.

Those researches have filled the world with wonderings; and thousands are watching the signs and sounds that are still coming from out of that old cemetery of primeval nations, buried during 5000 years, but now speaking to us again in a language we can comprehend, and restored to their civil, political, and chronological alliance and long-lost historical harmony with mankind.

Stupid wonder and unsatisfied curiosity were, for centuries, excited by those monuments. But now, to use the language of the illustrious Lepsius—

"Jene frühesten Dynastien der Ægyptischer Herscher bieten uns jetzs mehr als eine unfruchtbäre Reihe leerer Verscholtener und zweifelhafter namen. Sie sind nicht nur jedem begrundeten zweifel enthoben, und in ihre Kritisch festgestellte Ordnung und Zeitepocken eingereiht worden, sondern haben durch die anschauung des unter ihnen blühenden Staatlichen civilen und kunstlerishehen volkslebens, eine geistige und oft sehr individuelle geschichtliche Realität erhalten."—Lepsius, *Denkmäler aus Ægypten und Æthiopien*, p. 17.

M. Champollion Figeac, in his work on ancient Egypt, has the following striking passage:—

"Au spectacle de tant de Sagesse, unie à tant de puissance, l'imagination s'élance curieusement vers ces temps primitifs de l'histoire, et y recueille avec orgueil et réspect les preuves nombreuses de l'antiquité de la sagesse humaine; et nous demandons à Dieu, et aux hommes, de nous devoiler les mystères de son origine, de ses expériences, de son perfectionnement."—p. 84.

It is not at all surprising to observe this excited curiosity as to Egyptian monuments, annals, and chronology; nor to find

the appetite for information to "grow by what it feeds upon." Surely that mortal must be made of untempered clay, a mere clod of earth, who should not derive an almost passionate satisfaction, from beholding the transcendent illustrations of these topics in the pages and exquisite pictures of Professor Lepsius—in his high philosophical and historic expositions, and in the mere fact, indeed, of that devotion to science which led him, as head of the Prussian commission, to undergo all the toils and exposures connected with the completion of his most sumptuous *Denkmäler aus Ægypten und Æthiopien*. If you would press with haste to view a marble Greek slave, or a modern or ancient painting, one would think that the librarian of the city library might have more visitors than are now seen in the crypt that contains not these treasures of art and science only, but the magnificent tomes of Rossellini, besides many other curious, instructive, and most interesting works on Egyptology, in which that library is so rich. Who could possibly watch the progress of Champollion's development of the Egyptian writing and language, without a sentiment of pride, that such faculties are man's?

Even the arrow-headed inscriptions of Persepolis, and the Birs-nimroud, have at last become legible: and what a charm is that of Major Rawlinson's voice, as he reads to us, from the hard *stele* of Persepolis or the cliffs of Behistun, documents placed there so many ages ago; in hearing which, we seem to behold Darius Hystaspes, the Achemenian, rising from the tomb of centuries, and standing in our midst, clothed with the symbols of authority, acknowledging his dependence upon Ormuzd, the God of his fathers, and pronouncing a blasting anathema upon whosoever should destroy the records of his name and race he had there made!

Are you surprised, then, that our beloved Morton was touched with this enthusiasm? You have seen that Messrs. Botta and Layard have uncovered at Nineveh, remains so unexpected, so astonishing, that the mind reels under the retrospect of man's past condition, and yet yearns after fuller and clearer elucidations.

Stephens, Catherwood, Norman, Morton, Squiers, Schoolcraft, and others, have opened to us new views of American ethnology and Archaiology; and lately, M. De Sauley's interpretation of the bilingual inscription on the Thugga Stone seems to show that man's mission in the world is not to be lost and blotted out, and that

a condition of every human event or record is that it shall have its legend, in the same sense that a condition of matter is that it shall exhibit the property of attraction or gravitation.

I have been led into this train of reflection, by Dr. Morton's connection with these great researches; let us return to our more immediate objects.

Dr. Morton, in his *Crania Ægyptiaca*, p. 39, asks the question, "Who were the ancient Egyptians?" and is inclined to admit the connection between the old name of Misraim the son of Ham, and Mizraim the old name of the Egyptians, as used by the Hebrew writers.

It matters not for the present, whether this idea be well founded or not; I having it in hand, only to show you where and in what manner Dr. Morton's thoughts were directed.

Perhaps Professor Rossellini may, with greater reasonableness, derive Misraim, or Mestraim, as Eusebius writes it, from *Tzur* a rock, or rocky-pass, whence *Matzur*, a fortress or castle. Rossellini says that Mitzraim is a word of dual signification, curiously indicating two rocks, to wit, the two rock-chains, Lybian and Arabian, that on either hand compress the valley of the Nile between their bases.—*Ross. Monumenti d'Egitto e Nubia*, i, 18.

Whether this question of Dr. Morton's can be best settled by the philologer or the archaiologist, I shall not attempt to decide; yet I venture humbly to submit that, in answering the query as to who were the Egyptians, it seems reasonable in him, to have thought that, if a word, or a name, or even a whole language can clear up the point, or if the stone stelæ, obelisks, temples, pyramids, and palaces can answer our demand, a plainer and more satisfactory solution is to be found, by bringing before us the very Egyptians themselves, as Dr. Morton appears, in some instances at least, to have successfully done. It is true that the skulls he describes, as from the pyramid-of-five-steps, he has not positively declared to be coeval with that most ancient structure; but if they are so, then they may, he thinks, be regarded as the most ancient human remains at present known. Certainly they exhibit characteristics of the Caucasian race.

Of course it is not for me to entertain, much less express any opinion on the cotemporary age of Dr. Morton's specimens, and the new chamber discovered by Mr. Perring, in which they were

found under circumstances leading to a suspicion of their extremest antiquity. Dr. Lepsius says of that pyramid land of Gizeh, Saqara, and Dasehur, to which alone the Prussian commission devoted six whole months, "Wer sieh aber, aueh nur an die niedrigsten Annahmen der neueren Gelehrten über das Alter der ersten Ægyptisehen Dynastieen halten wollte, würde noeh immer jenen Denkmälen die Priorität vor allen übrigen Ægyptischen, so wie überhaupt vor allen geschiehtlieher nach weisbaren Kunstresten de ganzen Menschliehengesehleehts Zugestehen mussen."—*Lepsius, Denkmäler aus Ægypten und Æthiopien*, p. 4.

But admitting that these skulls are as old as the foundation, you may start the question whether Dr. Morton eould, in an immense eolleetion of crania of all nations and of diverse epoehs, unerringly selcet, and elassify, and denominate those of the five divisions or raees, and even families of mankind.

For my own part, I confess I long thought that his was a labor in vain; since to a casual observer as I was, the appearanees noticeable in a great number of speeimens are so similar, that I doubted the applieability of any rules of cranioscopieal diserimination to the ends he had in view.

I now, however, fully admit that I did him injustiee in the thought, whieh arose only from my own ignorance of the subject. I now believe that Dr. Morton's diagnostieations, as well as Blumenbaeh's, are to be depended upon; and that Dr. Morton's diserimination of the different skulls in his eollection was so fine and delieate, that I cannot rejeet his indieations and explanations of ethnologieal eharacteristics in them. I find an incident, mentioned in the Diary, whieh I beg leave to relate to you, whieh is eontained in a letter of his to his friend George R. Gliddon, Esq., under the date of Mareh 7th, 1845. The following extraet from it, whieh I beg permission to read, gives proof of the ability with which he applied his cranioscopical learning to ethnologieal questions.

* * * * * * * *

"yesterday sent me a copy of Bonomi and Birch's *Egyptian Antiquities of the British Museum*, which comes in good time, and is very welcome. Let me give you an example of the manner in which the study of Physiognomy comes in aid of Archaiology. One of the first plates I examined was the third, fig. 36, whieh represents the Ægis of Athor, the Egyptian Venus. I was at

once struck with the resemblance of the profile to that of *Aamesnofri-ari* (*Cran. Ægypt.* pl. 14, fig. 13), Queen of Amunophis the First; and on the principle that it was the custom of the Egyptians to make the features of the God resemble those of the monarch under whose reign they were executed, I was led to suppose that this effigy must in some way be connected with the Eighteenth Dynasty.

"Judge of my surprise and pleasure, upon reading the text, to find that this figure pertained to that very Dynasty, though without any reference to the likeness between the effigies of the goddess and that of the Queen."

If I am correct in these opinions, and if you coincide with them, certainly you will agree with me in deeming Dr. Morton warranted in bringing the light of his knowledge, in these particulars, to bear upon the dim traces of Man's lost History; and you will, upon due reflection, thank him even more than you have already done, and revere his memory and applaud his actions, who has built up that valuable collection now in your Museum. That Museum of yours is the scientific glory of the United States; and, it is fondly to be hoped, that the wealth and the luxury of Philadelphia, its fame for letters and philosophy, shall not soon have occasion to be ashamed and penitent; as it must be, if that admirable collection, the fruit of so much toil and cares, should be greedily and pitilessly taken from you, not by the greater wealth, but by the far greater liberality and public spirit of foreign nations or individuals.

The *Monumenti d'Egitto e Nubia*, of Professor Rossellini, contains a paragraph which I shall beg to cite as showing, in one of its aspects, the value of your collection; and you will please bear in mind, that the habit of embalming and thus preserving the natural history specimens of man was continued for centuries later than even the Roman domination in the kingdom of the Pharaohs.

"Si forte era (says Rossellini) negli Egiziani il bisogno e si antico l'uso di adornare con religiosi sculture le mura interni ed esterne dei loro sacri monumenti, che in nessuna epoca, per infelice che fosse ristettero mai anche per breve tempo dal praticare quest' arte. * * * * Infatti, tragli stesse tumulti della guerra longamente sostenuta contro gli Hickcios, tra le devastazione dello invasione Persiana, e le reiterate ribellioni dei vinti per

scuotere il giogo degli oppressori, tra le seventure generate nel paese dai vizi e dai delitti del major numero dei Lagidi; e tra le miserie dell' avara e soldatesca dominazione Romana, scrisse ed incessamente si edificarono, o almeno si ornavano di sculture i publici monumenti."—Tom. iv. p. 377.

These monuments and ornaments serve to cover, in many instances, the still preserved reliquiæ of the authors of them; so that the cranioscopical, ethnological, and chronological researches among them may proceed, *pari passu*, from the age of Abraham, and Isaac, and Jacob—from Menes almost down to the conquest of Omar.

All this is not idleness, nor is this knowledge a vain thing! It teaches us that, during the lapse of almost four thousand years, ending with the advent of Christ, the faculties of the human mind had been in the highest degree enhanced in power by science and observation; so that in the arts, in economy, in all those provisions that are indispensable for the performance of the greatest works, public and private, and the fulfilment of the grandest conceptions, those ancient people effected things that, at this day even, seem inexplicable. The mildness of the climate, its equable range of temperature, exposing neither to the frosts of the north nor the equally destructive vegetable forces of more humid regions, allowed those mighty ruins of ancient civilization to pass down undestroyed by the pressure of the centuries, their meaning, names, and authors lost and forgotten; until, within a recent period of the world, the enthusiasm and the talents of many admirable scholars, and the enlightened liberality of many powerful governments have concurred to reinstate those ancient people in their historical and ethnological harmony with the modern nations, defenders and sustainers of the arts and sciences. It was to aid, how little soever, in this dignified task, that our Morton labored in this distant hemisphere, and it is but scant justice to his memory to make mention of his share in such interesting inquiries.

My duty now brings me to touch upon a subject of extreme delicacy; one which I should pass by in silence were it not that by doing so I should fall short of a due obedience to your commands, which are to present to you a memoir of Dr. Morton.

I allude now to his published opinions on hybridity, involving notions upon the origin of the human race that brought him into conflict of opinion with others, whom he would be pained to disturb

in their sentiments, and whom he could not expect to unsettle in matters of religious faith. Indeed he was peculiarly averse to such proceedings, and I happen to find in his diary, for Dec. 8th, 1849, an entry which shows his abhorrence of infidelity.

"Some self-sufficient Christians," says he, "endeavor to make other persons unhappy in their faith, by representing them as victims of delusion. Such attempts to destroy the sacred tranquillity of the human mind under its conscientious impressions of right and wrong are equally cruel and wicked with the true infidel, who would destroy our hope in the future by trying to convince us there is no overruling Providence, and no existence beyond the grave."

Why did Dr. Morton make this entry into a private record of his thoughts? Certainly not with the expectation that I should see, or you should hear it.

In the *Crania Americana*, published in 1839, now twelve years ago, he had expressed his doubt as to the origin of mankind from a single pair, and he said, that "the prevalent belief is derived from the sacred writings, which, in the literal and obvious interpretation, teach us that all mankind must have originated from a single pair; whence it has been hastily and unnecessarily inferred, that the differences now observable in mankind are owing, solely, to vicissitudes of climate, locality, habits of life, and various collateral circumstances." And he asks whether man was not at once adapted by his Creator to the physical and moral circumstances in which he was to dwell upon the earth. He deems "that we are left to the reasonable conclusion that each race was adapted, from the beginning, to its peculiar local destination."

You perceive that Dr. Morton here asserts the physical characteristics of different races, as Europeans and Negroes, for instance, to be independent of external causes, and so aboriginal; or that the white man and the Malay, the North American Indian and the Hottentot, are people who could not have descended from the same original pair.

These views, which were forced upon him by an examination of the case, were not adopted without a reverent search of the sacred Scriptures.

The question before him was not whether all mankind are brethren, in the sense of being of the same species and under the same moral law, which as men they could not escape from

being. It was a question relative to important facts in natural history and physiology.

He could not geologically admit that the Noachian Deluge could at once cover the whole of the earth's surface; and he concluded that, if that great cataclysm which broke up the fountains of the deep, drowning vast extents of the earth, did leave some continents or parts of continents unsubmerged, the Scriptures would be rather strengthened and confirmed in their authority and dignity, than robbed and diminished in these respects, by a true reconciliation with the facts of geology, palæontology, and ethnology.

He thought the exceeding great populousness and the intellectual power and progress of the nations that existed at the founding of the Pyramids, could be more reasonably accounted for by supposing a plural origin of pairs of the same moral stamp and responsibility, power and destiny, than by natural increase and dispersion possible in so short a time as elapsed between the subsidence of the deluge and the founding of those vast structures at Gizeh, Abusir, and Daschur—edifices which, whether laid by the hands of Menes or Cheops, go back to a remote date, now chronologically determined, beyond the days of Abraham.

These reflections led him to draw up a paper which was printed in Prof. Silliman's *Amer. Journ. Sci. and Art*, Vol. II. 2d Series, 1846, and entitled, "Some Observations on the Ethnography and Archaiology of the American Aborigines." This was followed by an "Essay on Hybridity in Animals and Plants, considered in reference to the question of the Unity of the Human Species;" read at your table, but published in the *Am. J. Sci. and Art*, Vol. III. 2d Series, 1847.

The facts recited in these Essays authorized him, as he conceived, to hold the following conclusions, which were summed up in these words, to wit:—

1st. A latent power of Hybridity exists in many animals in the wild state; in which state also Hybrids are produced.

2d. Hybridity occurs not only among different species, but among different genera, and the cross-breeds have been prolific in both cases.

3d. Domestication does not cause this quality, but only evolves it.

4th. The capacity for fertile Hybridity, *cæteris paribus*, exists

in animals in proportion to their aptitude for domesticity and cultivation.

5th. Since various different species are capable of producing together prolific Hybrid offspring, Hybridity ceases to be a test of specific affiliation.

6th. Consequently, the mere fact that the several races of mankind produce with each other a more or less prolific progeny, constitutes in itself no proof of the unity of the human species.

You see here what pains were taken by him to learn the facts in relation to Hybridity in general, and to bring those facts to the decision of the question, as applied to the races and families of mankind! What a careful and pains-taking man he was; how conscientious as to the sacredness of truth, and how pure minded in the love of it!

Still, I am pained to say, these conclusions were attacked and controverted with such asperity, in different quarters, as to grieve him on account of the misconceptions that arose as to his inferences, and to prompt him to further inquiries and publications with which you are acquainted.

It seems to me probable that these attacks upon him would have been avoided but for the absence in science of any clear and unequivocal idea of or a competent definition of the word *species*, with power to apply the term unerringly.

Dr. Morton says, at page 4 of the Essay on Hybridity, that, "where races can be proved to possess certain primordial distinctions which have been transmitted unbroken, they should be regarded as true species." But the impossibility of applying this test to the whole immense catalogue must make it often unavailable for the objects whether of classification or other philosophical deduction.

It may be said that there is nothing in nature so unchangeable as a species, which by a distinguished philosopher, M. Flourens, has been pronounced to be *un être collectif*, a collective being; *l'unité de la nature, impérissable en totalité*, the unity of nature, imperishable as to its totality; except in those cases where some overwhelming cataclysm comes to engulf a whole species and overturn the whole immutable order of the universe.—*Flourens, Cours sur la générat., l'ovologie, et l'embryologie.*

I should gladly present to you here the views of illustrious

persons upon the nature and powers of species, did time allow. As it is, I may only say that Morton has himself given a definition of species, which is fit to be passed throughout the republic of letters as his own, and which has been beautifully complimented in a very high quarter. That definition of species is in these words,

"Species, a primordial organic form."

There is contained, among your archives, the letter to him from one of the most illustrious of living naturalists, which contains the beautiful compliment to which I allude.

Dr. Morton, having made use of the so-called test of Hybridity for the enlightenment of his own judgment, could not believe it applicable to settle the questions arising out of the ethnological differences of our race, and he merely announced that result—he had a good right to do so, if he spoke what he believed to be the truth upon a question in physics.

I beg you to understand that I am not called upon here to defend Dr. Morton, in his views of the great question whether the diversities, detected and figured by him, of craniological form, capacity, etc. etc., and which he insists are perennial, reaching down from the dates of the oldest human records and exuviæ, shortly subsequent to the subsidence of the flood, to the present time, be or be not sufficient grounds for his opinion. I leave these questions to the learned.

But may I not remark that the opposition to him and them probably arose more from some vague indeterminate apprehension, that they might be used as levers to disturb our faith in the Sacred Writings, than because they conflicted with inferences drawn by the highest authority in science, as Buffon, Cuvier, Flourens, Prichard and others, who, regarding species as unalterable, could not discern in the immense varieties of the human race, as to form, intelligence, color, and even endowment with organs, valid objections to the unity?

I trust I may further say I am quite sure the idea of disturbing any man's religious faith was foreign to his good heart, and, indeed, that neither his own religious tranquillity, nor that of his opponents was ever in the least shaken by the doctrine of the geographical distribution of plants and animals.

That distribution, as a primordial constitution of them, whether examined as palæontological or as living species, is the inevitable

conclusion of the mind; but the doctrine might, by some persons, be held as erroneous and offensive as that of the plural origin of man.

He conscientiously believed that the anthropology of the Scriptures ought not to, and does not conflict with the notion of a plural origin of the race or races, which in nowise disclaims the unity of mankind as identical in species, and as brothers in moral and in physical nature, responsibility, and destiny, power, hope, and free-will.

He, a religious man himself, had not seen those venerable records cast down and trampled after the reasonings of Galileo, the *Ossemens Fossiles* of Cuvier, the discoveries of Buckland, or the wonderful collections of his dear friend, Dr. Gideon Mantell.

He knew that if Urban VIII. had condemned the Italian Astronomer to the flames as a pernicious heretic, his indignant exclamation as he rose from his knees, would have continued to be as true to-day as it was on occasion of that infamous tyranny on the 23d of June, 1633: *e pur, se muove*, was true, is true, and shall be true until the Will of God as to the laws, called Kepler's laws, and the law of gravitative attraction, and which are but his will at last, shall be changed by His supreme determination.

Neither the deep cuttings in lava beds by the rivers of Auvergne, nor the dreadful chasm of the Niagara, nor any ichthyosaur, nor plesiosaur, nor megatherium, nor any coal basin had ever alarmed his tender conscience, or put to flight his trust in God, or his hope for immortality.

Even our colleague, Mr. Isaac Lea's *Sauropus primævus*, has not startled or amazed him, when he saw its foot-prints in the lowest old sandstone, thinking, like another Robinson Crusoe, that haply some enemy had passed that way.

He did believe that he spoke the truth, and that truth, which is never irreconcilable with God's will and purposes, admits of being spoken and ought not to be hid.

In this spirit, if this was his spirit, even though he erred, he was surely no conspirator.

I shall dismiss this part of my subject when I shall have presented to you a passage from that celebrated writer the Chevalier Bunsen, showing *his* views upon a subject connected with the topic under review.

In his *Egypt's Place in the World's History*, the Chevalier Bunsen asks whether the study of Egyptian History would lead us to a conclusion that there was one universal deluge, or several partial and local floods; and whether the most ancient traditions, those of Egypt especially, exhibit any indications of violent interruptions in the early stages of human advancement; and lastly, what light is thrown by "our researches" on the great question of the unity of the human race and its primordial epochs.

"No historian," says he, "in these days, who deals honestly and conscientiously with Egyptian chronology, can evade these questions. We have no hesitation in asserting at once, and without entering into any further investigation, that there exist Egyptian monuments, the date of which can be accurately fixed, of a higher antiquity than those of any other nation known in history, viz., above 5000 years. The fact must be explained: to deny it would be a proof of little skill and still less candor on the part of any critic who has once undertaken to make the investigation."

Time bids me bring this memoir to a conclusion.

On the 3d of December, 1848, Dr. Morton was seized with pleuro-pneumonia of the left lung, which brought his life into imminent peril, at the time, but, after a severe and protracted struggle, left him to come forth again upon the stage of action a man in broken health from a ruined lung.

It was supposed he could never again engage in the pursuits of his profession; yet his indomitable courage and industry drove him in the still busier round of occupations, which increasing favor brought to him. After his illness he never breathed, save by the right lung alone.

Many of his medical friends exhorted him to spare a frame supported on such frail props of strength, by lessening his labor as physician; and they clearly indicated the premature dissolution that must follow any such course of exertions as his.

He was as well aware as the most sagacious of them of these risks; but he could not consent to live useless in the world, and so he labored diligently in his calling, and always, even in his illness, loved and remembered the Academy.

It was on Saturday the 10th of May, 1851, that, having spent the evening in the usual happy intercourse with his family, he was seized, towards the close of the evening, with a slight headache, which became violent on the following day, Sunday, the

11th, during which day he had also pain in the back and limbs. After having suffered severely from these symptoms, and from sleeplessness, he found himself on the morning of Wednesday, as he believed, and said, free from disease, so that he slept tranquilly for several hours.

He now entered cheerfully into the affairs of his family, giving lively attention to the business of his household until, made happy by improving health, he sunk into a calm sleep.

He awoke in about an hour, and alarmed his friends by unmistakeable evidences of great lebetude of the perceptive faculties, but expressed himself as free from pain. He was yet disposed to sleep, as soon as his attention ceased to be called. Very soon the power of deglutition was lost, hemiplegia of the right side was added to the mortal train, and he passed into profound coma, which terminated his existence at noon on Thursday, the 15th of May, 1851, in the 52d year of his age.

Dr. Morton was united in marriage to Rebecca, daughter of Robert and Elizabeth Pearsall, of this city, on the 23d October, 1827.

His home thenceforth was the secure abode of domestic peace, unity, and concord; and the happiness of that charming intellectual circle was broken only when disease or death could burst through the sacred spell of love and hope that bound, as in a protecting zone, its sweet repose.

It is proper to draw a veil over grief too sincere and too great to find consolation, save in religious confidence and hope. Nor should I take the occasion of this memoir even to make mention of a deep affliction he had in the loss of a noble youth, the most hopeful and promising, who was cut off by death on the 15th May, 1850. Yet I venture to allude to it here that I may exhibit a specimen of his versification that shows, among many others I have perused, not merely the intensity of his parental feeling, but also the graceful form in which he was ofttimes accustomed to express his sentiments in verse.

A Father's lament for his Son, George Morton, born Dec. 21, 1832—Died May 15, 1850.

"Stretched on the couch of anguish, lay
A youth, of manly form and graceful brow;
But lo! the strength of yesterday
Gives place to weakness now:

A day of agony—an hour of rest—
Then came the pulseless hand, and heaving breast,
And all was over. O! that sacred spell!
Wherein we prayed, and wept, and bade farewell!
That hurried warning of eternity!
That gush of wild emotions! O! my child!
Yet, thou alone wert calm and reconciled;
Death brought no fears to thee.
And art thou gone forever? Thou who seemed
An angel in my house and heart:
So young, so pure, so bright! I had not dreamed
That thus untimely we were doomed to part,
Or I should live to see the wild flowers bloom
Around thy early tomb.
Thy joyous step no more
Is heard by those who welcomed it before.
The sounding viol and the cheerful flute
By thee no longer touched, are hushed and mute;
And all is lone and sad where thou hast been;
Thy voice unheard—thyself unseen.
Yet, in our hearts thy memory shall live
Embalmed and beautiful, till life is o'er;
And then the promise of our faith shall give
Thy spirit back to us, to part no more
In that mysterious clime,
Where takes the soul no note of toil or time.

Thy tranquil grave is by the river's side,
And there our dust shall mingle with thy own;
And we will pray to die as thou hast died,
And go where thou art gone."

And alas! gentlemen, exactly one year after the loss of his beloved son, the good physician's grief was over, and the dust of the father and the child are mingled on the banks of the Schuylkill, at Laurel Hill.

His touching expressions reveal the truth of Morton's feelings; for he was a man of truth, and altogether above that sickly sentimentality that pours forth, in prose or in verse, expressions of passion never keenly felt, or grief never earnestly brought home to the life and the affections.

A volume of verses in manuscript lies before me, from which, however, I shall not select any other specimens.

At his death, he left with his widow five sons and two daughters, who deplore the loss of a tender husband and parent, than whom I have not known one more excellent and amiable.

I have already said that his love for his family was almost idolatrous, and many of us who are witnesses of the graceful and unaffected hospitality of his house, can testify as to the marks of his love and confidence as to them: and we must, with one accord, regret the dissolution of those pleasant reunions, in which we have participated there, with men of letters and science of our own country or from foreign nations, who, with us, observed the cordiality and simplicity of his manners, in which were joined, in just proportions, dignity with urbanity.

Dr. Morton was a man above the ordinary stature; his face was oval, and always pale; his eyes a clear bluish-gray; his hair light.

As a man, he was modest in his demeanor, of no arrogant pretensions, and of a forgiving temper; charitable and respectful to others, yet never forgetful of self-respect. That he was a religious man I know from many opportunities had with him, and from his life and conversation. He was always in earnest, and always to be depended upon.

Few men are to be found more free from faults, and few of greater probity or of more liberal sentiments, or purer designs and aspirations. Doubtless he had faults, but they were not obvious, and I never discovered them in an acquaintance of near thirty years with him.

I have endeavored, while speaking of my friend, and while expressing my thoughts of what he was and what he performed, not to transcend the boundaries of truth as to his character and his actions. I would willingly give praise to all such S c h o l a r s; for I regard all men like him as fit teachers and guides for mankind—and now, to use the language of Gray:—

> "No longer seek his merits to disclose,
> Nor draw his frailties from their dread abode,—
> Where they alike, in trembling hope repose,—
> The bosom of his father and his God."

APPENDIX.

Dr. Morton had the honor to be elected member of many societies of the learned in various parts of the United States, in Europe, and in the East, among which were the following:—

The Acad. Nat. Sci. of Philada.
The Philada. Med. Soc.
The College of Phys. of Philada.
The Amer. Philos. Society.
The U. S. Med. Association.
The Massachusetts Med. Soc.
The Western Acad. of Nat. Sci. at St. Louis, Mo.
The Georgia Histor. Society.
The Lyceum of Nat. History of New York.
The Boston Soc. of Natural History.
The Amer. Oriental Soc. at Boston.
The Amer. Ethnological Society at New York.
The Medical Society of Sweden.
The Royal Botan. Society of Ratisbon.
The Acad. of Sci. and Letters at Palermo.
The Royal Society of Northern Antiquaries at Copenhagen.
The Acad. of Sci., Letters, and Arts de Zelanti di Arci-reale.
The Imperial Soc. of Naturalists of Moscow.
The Med. Soc. of Edinburgh.
The Senckenburg Nat. Hist. Soc. of Frankfort-on-Maync.

The following is a list of his principal papers and published works—at the end of which I have placed a translation of a letter addressed to him by the Baron Humboldt.

Observations on Cornine, a new alkaloid—Med. and Phys. Journal of Philadelphia for 1825, 1826: p. 195.

Dr. Morton's name is connected, in the Journal of the Academy, with the following papers and notices:—

Analysis of Tabular Spar from Bucks County, Pennsylvania, with a notice of various minerals found at the same locality: May, 1827—Jour. Acad., vi. 46.

Description of a new species of Ostrea, with some remarks on the Ostrea Convexa of Say: May 1, 1827—Jour. Acad., vi. 50.

Geologieal Observations on the Seeondary, Tertiary, and Alluvial Formations of the Atlantie Coast of the United States of America, arranged from the notes of Lardner Vanuxem, by S. G. M.: Jan. 8, 1828—vi. 59.

Deseription of the Fossil Shells whieh eharaeterize the Atlantic secondary formation of New Jersey and Delaware, ineluding four new species: Dec. 11, 1827, and Jan. 1, 1828.

Note, eontaining a notice of some Fossils recently diseovered in New Jersey: June 2, 1828—vi. 120.

Deseription of two new speeies of Fossil Shells of the genera Scaphites and Crepidula; with some observations on the Ferruginous Sand, Plastie Clay, and upper Marine formation of the United States: June 17, 1828—vi. 107.

Additional Observations on the Geology and Organic Remains of New Jersey and Delaware: Jan. 19, July 6, 1830—vi. 189.

Notice of some Parasitie Worms: Mareh 15, 1831—vi. 296.

Some remarks on the ancient Peruvians: June 1, 1841—viii. 205.

Remarks on a mode of aseertaining the internal eapaeity of the human cranium: April 6, 1841.

A Memoir of William Maelure: read July 1, 1841.

Observations on the embalmed body of an Egyptian Ibis—*Ibis religios:* May 4, 1841.

Observations on eight skulls from Mexieo: July 6, 1841.

Remarks on the Sutures of the Cranium as eonneeted with the growth of the eorresponding bones: May 17, 1841.

Deseription of Fossil Shells from the Cretaceous deposit of the United States: Oet. 12, 1841.

On an Albino Racoon: Nov. 6, 1841.

On the so-called Pigmy raee of people who are asserted to have formerly inhabited a part of the Valley of the Mississippi: Nov. 15, 1841.

Deseription of two new species of Fossil Shells from the lower eretaeeous strata of New Jersey: Nov. 7, 1841.

Results of measurement of forty-five adult negro erania, in order to ascertain the internal eapaeity of the skull in the Afriean race: Dec. 14, 1841.

Deseription of some new speeies of organic remains of the eretaceous group of the United States; with a tabular view of the fossils hitherto diseovered in this formation: Oet. 12, Nov. 7, 1841; Jan. 25, 1842.

Verbal eommunieation on an adult skeleton from Tieul, Yueatan: May 9, 1842.

Brief Remarks on the Diversities of the Human Speeies, and on some kindred subjeets, being an introduetory leeture delivered before the class of Pennsylvania Medieal College in Philadelphia: Nov. 1, 1842.

Inquiry into the Distinetive Charaeteristies of the Aboriginal raee of Ameriea: 2d edit., 1844.

On the analogy whieh exists between the Marl of New Jersey and the Chalk formation of Europe—a letter to Professor Silliman: Feb. 14, 1832—Am. Jour. Sci. and Art, vol. xxiv. p. 90.

Notiee of the fossil teeth of fishes of the United States; the discovery of

the Galt in Alabama, and a proposed division of the American cretaceous group—Am. Jour. Sci. and Art, vol. xxviii. p. 276.

On a supposed new species of Hippopotamus: Feb. 27, 1844.

Remarks on the Skull of a Hottentot: May 21, 1844.

Description of Head of a Fossil Crocodile from the cretaceous strata of New Jersey: Aug. 27, 1844.

On a second series of ancient Egyptian Crania: Oct. 29, 1844.

Observations on Mosasaurus of New Jersey: Nov. 24, 1844.

Measurements of Skulls of native Africans: Dec. 17, 1844.

Remarks on the Skulls of a Mexican, a Lenape, and a Congo negro: May 6, 1845.

Remarks on the Crania of two ancient Peruvians, two mound skulls from Missouri, a Hottentot, a Mozambique negro, and four mummied Egyptian heads: Sept. 2, 1845.

Remarks on two skulls of natives of New Holland: Nov. 18, 1845.

Verbal Remarks on Cretaceous Fossils of New Jersey: March 24, 1840.

Remarks on the additional Fossils from Burlington County, New Jersey: March 1, 1846.

On Peruvian Remains: March 1, 1846.

Description of two new species of Fossil Echinodermata from the Eocene of the United States: May 26, 1846.

On two living hybrid fowls between Gallus and Numida: Sept. 29, 1846.

Address at the first meeting of the Academy at the new Library and Meeting-room: May 4, 1847.

Remarks on an aboriginal cranium from Chilicothe, Ohio: May 25, 1847.

Remarks on an Indian cranium from Richmond, on the Delaware: Dec. 21, 1847.

Remarks on a Bushman boy at Philadelphia: Feb. 8, 1848.

Remarks on an ancient Peruvian cranium from Pisco: April 11, 1848.

Remarks on four skulls of Shoshonees: Aug. 8, 1848.

Observations on the size of the Brain in various races and families of Man: April 25, 1848.

Biographical Notice of the late George McClellan, M. D.: read before the Philadelphia College of Physicians, Sept. 4, 1849.

Illustrations of Pulmonary Consumption, its Anatomical Character, Causes, Symptoms and Treatment, with 12 colored plates: Philadelphia, 1834.

Mackintosh's Practice of Physic, with Notes by S. G. Morton.

Crania Americana; or, a Comparative view of the Skulls of various Aboriginal Nations of North and South America: to which is prefixed an Essay on the Varieties of the Human Species; illustrated by seventy-eight plates, and a colored map, by Samuel George Morton, M. D., &c. &c., folio: Philadelphia and London, 1839.

Crania Ægyptiaca; or, Observations on Egyptian Ethnography, derived from History and the Monuments; plates and wood-cuts: Philadelphia and London, 4to. 1845.

An Illustrated System of Human Anatomy, Special, General, and Microscopic: Philadelphia, 8vo. 1849.

Translated copy of a Letter from Baron Alexander Humboldt to S. G. Morton, M. D.

SIR:—

The close bonds of interest and affection that have for the past half century connected me with the hemisphere in which you reside, and of which I flatter myself that I am a citizen, have added to the impressions made upon me by the receipt, almost at the same moment, of your great work on Philosophical Physiology, and the admirable *History of the Conquest of Mexico* by Mr. Wm. Prescott. Works of this class, which extend by very different means the sphere of our knowledge, serve to add to the glory of one's country. I cannot sufficiently express my deep gratitude to you.

At my advanced age, I am peculiarly gratified by the interest still preserved for me beyond the great Atlantic valley over which a bridge has, as it were, been thrown by the power of steam.

The craniological treasures which you have been so fortunate as to unite in your collection, have in you found a worthy interpreter. Your work is equally remarkable for the profundity of its anatomical views, the numerical detail of the relations of organic conformation, the absence of those poetical reveries which are as the myths of modern physiology, and the generalizations with which your Introductory Essay abounds.

Being at present occupied in the preparation of the most important of my works, which will be published under the imprudent title of *Cosmos*, I shall know how to profit by so many excellent views upon the distribution of the races of mankind that are scattered throughout your beautiful volume. One cannot, indeed, but be surprised to see in it such evidences of artistic perfection, and that you could produce a work that is a fitting rival of whatever most beautiful has been produced either in France or in England. I pray you to accept the renewed expression of the high consideration with which I have the honor to be, sir, your obedient, humble servant,

ALEXANDER HUMBOLDT.

Berlin, 17*th January*, 1844.